



## Big wires would flow from big wind farm

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A mammoth wind farm proposed for northwestern North Dakota could anchor an electrical "transmission superhighway" if a concept from a major utility is found to be viable.

American Electric Power announced that it is exploring the feasibility of an "extra-high voltage" transmission system to connect major wind developments in the Dakotas with markets in a network ending near Chicago.

The 765-kilovolt network, with an estimated price tag of \$5 billion to \$10 billion, would connect to the proposed Hartland Wind Farm in Burke and Mountrail counties of northwestern North Dakota.

The Hartland Wind Farm would have a capacity of 2,000 megawatts, dwarfing even the largest wind projects now generating power in North Dakota. If approved, plans call for the \$4 billion Hartland Wind Farm to begin construction in 2010, with completion about four years later.

"The existing grid is basically saturated and full," Craig Fink, managing member of Hartland Wind Farm LLC, said Wednesday.

Hartland is part of the 5,130 megawatts of wind projects in service, under construction or pending regulatory approval in North Dakota. Another large project is the proposed 1,000-megawatt development proposed by FPL Energy northwest of Center, N.D., in Oliver County.

Major wind farms now in the pipeline will require significant expansion of the transmission system, said Commissioner Susan Wefald of the North Dakota Public Service Commission.

Still, she cautioned that the American Electric Power's transmission proposal, which the utility said is in the "conceptual stage," would have overcome technical, financial and political challenges to become a reality.

Big transmission projects come with big debates about allocating the costs among far-flung electrical customers and winning approval to route lines, which inevitably spark resistance from landowners, she said.

"These are the questions that are big issues right now in the Midwest," Wefald said.

Her regulatory counterparts in Illinois have been debating, for instance, about whether it would be better for ratepayers in that state if it would be cheaper to build wind farms closer to home to avoid the costs of transmitting power over long distances.

Nonetheless, major expansions of the transmission system will be required if the nation embraces ambitious mandates for wind and other renewable energy sources, Wefald said.

Robert Harms of Bismarck, chairman of the Upper Great Plains Transmission Coalition, said big projects such as the proposed Hartland Wind Farm and AEP's possible Midwestern "transmission superhighway" might help to shape policies that have yet to be drafted for revamping the nation's electrical grid.

Harms agrees that cost allocation questions of new transmission projects are critical to address.

"The consumers in North Dakota don't want to pay for exporting electricity to Chicago," he said.

Because North Dakota's wind resource is so efficient, many wind developers have concluded it is cost-effective to transmit wind power to faraway markets, Harms said.

If built, the "transmission superhighway" being evaluated by AEP to link wind farms in the Dakotas and neighboring states to Chicago and other eastern markets would be the first extra-high-voltage transmission system west of the Mississippi River, Fink said.

The Hartland Wind Farm will be the catalyst that would boost transmission infrastructure for other projects, he added.

"It's almost like being an anchor tenant at a strip mall," Fink said. "Other wind farms in the Dakotas will benefit from this."

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